AMENDMENTS TO THE SPECIFICATION

Please amend paragraph **[0004]** of the specification as follows:

[0004] Fig. 2 is an example illustration of spot beams positioned over predefined Earth locations in a non-uniform coverage distribution utilizing the previously mentioned hemispherical earth coverage. ~~Three different satellites 700, 710 and 720 are~~A satellite 710 is shown ~~respectively~~ located at ~~103 degrees west longitude,~~ [[45]]47 degrees west longitude~~, and 124.5 degrees east longitude. The satellite 700 has most of its spot beams 730 directed towards the North American continent~~. Satellite 710 positions its spot beams 740 to cover South America and the east coast of the United States. ~~Satellite 720 in turn has its spot beams 750 distributed to cover portions of Asia and Australia.~~ Further, the positioning of the spot beams is dependent upon the physical alignment of the feeds in the antenna of the satellite and the longitude at which the satellite is positioned in geo-synchronous orbit as detailed in U.S. Patent Nos. 6,211,835; 6,215,452; and 6,236,375 incorporated herein by reference in their entireties. Once the feeds are set within a satellite they may not be changed individually to target another geographical location. However, unlike a uniform coverage distribution methodology, the spot beams may be directed towards those areas where demand is highest and profitability maximized. Therefore, the positioning of feeds to generate spot beams is critical in determining the profitability of a satellite communications network.

Please amend paragraph **[0024]** of the specification as follows:

[0024] Fig. 3 is a block diagram illustrating electronics in a payload for one beam group of a multi-beam satellite according to the preferred embodiments of the present invention. The satellite payload may include similar electronics for each of the other beam groups. The satellite may include various types of antenna structures for receiving and transmitting numerous beam groups, for example, eight beam groups. For example, there may be a first antenna or antenna set to receive uplink spot beams and a second antenna or antenna set to receive downlink spot beams. Alternatively, there may be one or more shared antenna apertures, each receiving and transmitting uplink and downlink spot beams.

Please amend paragraph **[0026]** of the specification as follows:

[0026] The lower frequency C-Band signals may then be amplified by eight C-Band utility amplifiers 140 and proceed to an Input Multiplexer (IMUX) and switching assembly 200. The IMUX and switching assembly 200 may include an uplink 4:2 connectivity switching network 210, which may be a power dividing switching network. Signals output from the uplink [[4-2]]4:2 connectivity switching network 210 may be input to either one of the two outbound input multiplexers (IMUX) 220 or to the 4:1 inverse IMUX 230. The ~~IMUXes~~IMUXs' 220 outputs O1, O2, O3, and O4 are connected to a C-Band redundancy switching network 310. The 4:1 inverse IMUX 230 output I1 is connected to the C-Band redundancy switching network 310.

Please amend paragraph **[0031]** of the specification as follows:

[0031] [[FIG.]]Fig. 4 is a diagram conceptually illustrating the feature of flexibly allocating spot beam capacity of a satellite on-orbit in order to increase the capacity for a geographical area. This flexible allocation may be desirable, for example, because demand has increased in the geographical area. The satellite is depicted with four spot beams as typically covered by the feeds located within one or more of the antennas of the satellite. As indicated in [[FIG.]]Fig. 4, each of the signal [[01]]O1, [[02]]O2, [[03]]O3, and [[04]]O4 may be directed to a different geographical area, or all signals may be concentrated to any one geographical area. Fig. 4 illustrates an extreme signal re-allocation scenario, and many other combinations of signal distribution are possible. Therefore, when demand rises within a particular area it is possible to have additional signals routed to higher demand area, while taking signals away from other areas in the beam group. Altering the group of feeds which are active at any given moment in time can be done utilizing commandable switches on-board the satellite. For instance, two transponders could be allocated to each of two lower-demand beams. These configurations can be changed on-orbit.

Please amend paragraph **[0044]** of the specification as follows:

[0044] The switching matrix also provides an inexpensive, on-orbit method to enable a spot beam by spot beam checkout and test. A second example of the Uplink 4:2 Connectivity Switching of Fig. 3 is shown in Fig. [[8]]7. It allows connectivity, for test purposes only, of the uplink from each cell to the downlink to that same cell.